

Safety and Quality in Combined Transport (CT)

This brochure provides the essential information needed to ensure the safety of consignments in combined transport.



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1 Foreword

Hupac is constantly examining the risks involved in the activities associated with its business, giving particular attention to the operations conducted at the terminals and on the railway lines.

The greatest risks derive from accidents, which could result in injuries, damage to intermodal loading units (ITUs), to the goods they contain, to terminal and railway infrastructures, to third parties' property and to the environment, as well as derailments, fires and prolonged service interruptions along the lines.

Safety is the first priority of Hupac, which does its best to create a safe and reliable transport system and is committed to improving safety in all areas it manages.

Hupac has therefore decided to prepare this brochure, in order to provide its clients with the essential information for ensuring safety of consignments in combined transport.

Hupac invites its clients to respect the regulations on loading and securing loads, as well as all the other measures detailed in this brochure, with the aim of guaranteeing transport safety without endangering terminal and/or railway activities, property and people.

2 Standards of conduct for the terminal users (drivers / others)

Summary of hazards:

- Presence of lifting equipment in movement and in operation;
- Presence of railway vehicles in motion;
- Presence of operating staff, on foot or bicycle;
- Presence of containers designed for the transport of hazardous goods.

Conduct standards:

- Obey the instructions of the operating staff;
- Respect the indicated speed limits;
- Use the requested personal protective equipment;
- Pay attention to suspended loads;
- Pay attention to any obstacle or protrusion of containers;
- Pay attention to moving railway vehicles;
- Pay attention to instruction signs;
- Switch off the engine when the vehicle is stationary.

Prohibited:

- Unauthorised entry to the terminal;
- Smoking within the terminal area;
- Use of naked flames or any equipment which may create a source of heat;
- Stopping alongside any crane with suspended loads or directly beneath them;
- Crossing of lines with approaching or moving railway vehicles;
- Climbing aboard railway wagons without authorisation;
- Film or photograph without authorisation.

Conduct in case of emergency:

- Alert the operating staff of the alarm;
- Distance yourself immediately from the source of danger, following the instructions given by the operating staff;
- Don't take any personal initiative;
- Reach the indicated meeting point.

3 Rules governing the condition of the ITUs

Firstly, it is necessary to point out that according to Art. 5.1 of the General Conditions of the International Union of Combined Road-Rail Transport Companies (hereinafter called UIRR General Conditions), by signing the contractual form the customer engages himself in the way that:

1. the data supplied by him, concerning the ITUs and the goods, with particular regard to the weight and the nature of these ones, are exact and complete, independently of the fact that it is the customer himself or the UIRR Company that enters or lets enter these data in the contractual form;
2. all the documents accompanying the ITU and which are prescribed by the authorities for the different inspections are duly and correctly filled in;
3. any particular dispositions in force in the countries concerned with the transport of the ITU are likewise respected.

Concerning the condition of the ITU, the goods it contains and the customer's responsibility, please note that Art. 5.2 of the UIRR General Conditions establishes that:

"In using an ITU, the client guarantees it is suitable for combined transport and that it and the goods it contains meet the safety criteria required by that type of transport."

With a "suitable" ITU we mean that it has been technically approved for combined transport, that it has a coded registration plate or, in the case of ISO containers, the "Safety Approval Plate" in accordance with the "Container Safety Convention", and that the condition of the ITU has not substantially changed since its approval for combined transport.

With "safety" we mean that the ITU and the goods it contains allow a thoroughly safe transport and above all that the packaging of the goods, their stowage and fastening within the ITU are suitable for the specific characteristics of combined transport; this particularly in the case of transport of liquid substances or goods which require a constant temperature.

According to Art. 5.3 of the UIRR General Conditions, the customer is responsible for all damage caused as the result of failing to observe the specified regulations, as in Art. 5.1, 5.2 and 6.3, even if no fault is attributable to him.

With regard to the hazardous goods, we remember that, according to Art. 6.2 of the UIRR General Conditions, an ITU containing authorised hazardous goods shall be in compliance with the legislative and regulatory provisions, at national and international level, for its transport by rail and road.

The Art. 6.3 of the UIRR General Conditions specifies that, for the delivery of such an ITU, the customer engages himself, further to what specified in Art. 5, to:

- respect the dispositions laid down in Art. 6.2;
- write on the contractual form the exact denomination of the goods, according to the specific rules in force for hazardous goods;
- transmit the suitable safety data sheets and the other necessary documents;
- communicate the precautions which shall be taken, that are prescribed by the relevant authorities or that are anyway necessary.

It is therefore up to the client to send ITUs to Hupac in a perfect condition, in order to allow an absolutely safe transport.

The client must ensure complete maintenance and care as well as an impeccable use of the vehicles which are utilised in combined transport. He shall guarantee that the greatest care is used in the phases of loading and securing the goods.

The fact that vehicles and/or defective loads can cause serious events in their transport as well as damage and/or injuries, touches on questions not only of civil but also criminal liability.

Furthermore, we emphasise that suitable loading and securing of the goods in the ITU falls into the realm of due care and diligence of the customer.

Due to the responsibility which is up to the customer according to the above-exposed facts, Hupac invites its customers to take out the adequate insurance policies.

4 Identification of the ITU

4.1 Introduction

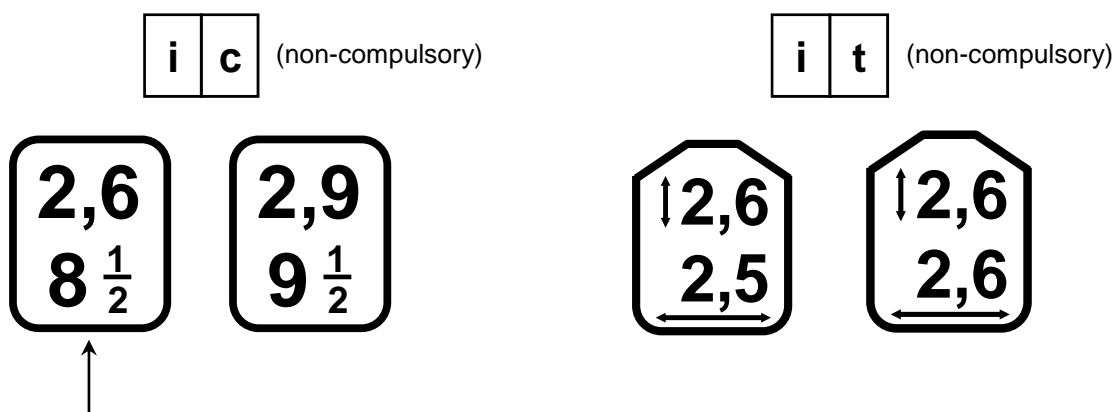
ITUs must bear the markings stipulated in points 4.2 or 4.3, which confirm the adherence of the railway transport to the UIC/IRS international regulations.

The markings on the containers are applied directly by the manufacturers, while the code panels on the swap bodies and semi-trailers must be requested to the competent authorities (intermodal companies, railway undertakings or national agencies) by filling in and signing the corresponding forms.

Note: during the acceptance phase of ITUs in the terminal, those without the correct markings will be rejected.

4.2 Containers

Example of inscription, 2 pieces (one per side)



The inscription of the height for ISO-Containers (ic), which have a height up to 2591 mm rounded to 2600 mm, is optional.

However, it is recommended to apply it, in order to avoid any acceptance problems in some terminals.

CSC Plate (only the containers with upper corner pieces must have a valid CSC plate for the coupling with the "spreader").

CSC SAFETY APPROVAL			
*I*RI*05 - 932 - 9870*			
DATE MANUFACTURED	: 11-2006		
MANUFACTURER'S No.	: C-0 445 / 2006		
MAXIMUM GROSS WEIGHT	: 23000 kg	50710 lb	
ALLOW. STACK. WT. 1.8 G.	: 23000 kg	50710 lb	
RACKING TEST LOAD VALUE	: 15290 kg	33710 lb	
SIDE WALL STRENGTH 0.6 P	: 8020 kg	17680 lb	
END WALL STRENGTH 0.4 P	: 8020 kg	17680 lb	
DATE OF EXAMINATIONS	: 11-2011		


OR

CSC SAFETY APPROVAL			
F / BV / 7143 / 00			
DATE MANUFACTURED	: 01-2000		
IDENTIFICATION No.	: TRIU		
MAXIMUM GROSS WEIGHT	: 34000 kg	74960 lb	
ALLOW. STACK. WT. 1.8 G.	: 34000 kg	74960 lb	
RACKING TEST LOAD VALUE	: 15260 kg	33600 lb	
			ACEP
			USA
			1984
			0009

4.3 Swap bodies / Semi-trailers

Examples of code plate, 2 pieces (one per side)


Swap bodies


S 29	C 28		850806 114955	30
→ 2550 ← 40 • 046 • 0901-4				

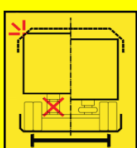
C 44	45
S 45	2500
	XL
040 • S10004 • 000000000000132391	

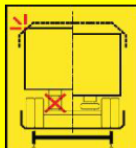
040 • S10003 • 000000000000100321	C 29
	S 29
	30
	2550
	XL

Semi-trailers

S 400	P 400	
40 • 351 • 0199		170 811  3139074

S386	P386	98 cm	a	b	c	d	e	f
			g	h	i			
40 • 551 • 0296		403 610 	WKESD000 000484953					

P 386		a b c3	
98	XL	d e f g	
		h i	
040 • KR0054 • WKESD0000000582188			

040 • CC0073 • ZNF170BDFSF000747	P404
	98
	XL
	d e f
	g h i
	

4.4 Loss of the codification plate

The client shall inform Hupac in the event of loss of one or both codification plates of the ITU, by indicating the required technical data. Hupac will order the codification plate/s if this/these was/were issued by SBB/Hupac, while in other cases, Hupac will inform the authority which coded the ITU, so that the missing plates may be ordered as soon as possible.

The costs for the replacement of the code plates shall be borne by the customer.

4.5 Modifications to ITUs

Any changes regarding the external profile, the solidity conditions or any other structural change, may be applied to the coded ITU only after their approval by Hupac or the licensing authority.

The modifications must be certified by the relevant bodies (e.g. RINA, TUV, etc.).

To obtain new plates (in the case of changes to the external profile), the client must send a new application to Hupac or the licensing authority.

In the case that the customer makes structural changes to an ITU without following the above-said procedure, he will be liable for any damage arising from the non-approved amendments.

4.6 ILU-Code

A new system on the coding and identification of the loading units' owner in combined transport came into force on July 1st, 2011. A new unified system, the ILU-Code (Intermodal Loading Unit Code), was introduced for the labelling of semi-trailers and swap bodies in accordance with the regulations EN 13044.

Thanks to the ILU-Code the advantages of the BIC-Code, that was used for many years all over the world for ISO containers, are extended also to semi-trailers and swap bodies. Every owner of intermodal loading units gets an owner's code (consisting of four letters), adds a six-digit numerical sequence according to his own criteria, completes it with a self-control figure that is automatically generated, and applies this code to his own loading units.

Advantages of the ILU-Code:

- Thanks to the simple and univocal identification of the loading unit's owner, it is possible to automate and speed up the procedures at the terminals, in the tracking & tracing and in the customs clearance, as well as to obtain high-quality data from booking to billing.
- In case of change of the owner, the technical codification remains valid because the identification of the ownership is separated from the yellow codification plate.
- Compatibility with the systems of fleet management for containers with the BIC-code.

How to proceed:

1. Register your Owner-key

On the website www.ilu-code.eu, you should register your company data and choose an Owner-key. Upon payment of the registration fee your code is registered and officially published in the ILU-Code Register. With your Owner-key, you can directly identify your loading units: one single Owner-key in combination with the freely chosen registration number allows you to mark up to 999.999 loading units.

2. Mark your units

For every loading unit - newly purchased or already owned -, you may either ask the manufacturer to take care of the marking, or implement it yourself for instance through self-adhesive labels that you can order on the ILU-Code website.

ILU-Code: three elements



5 Advance notification of an ITU consignment

The customer must communicate the data displayed on the codification plate or on the containers (owner's code number, series number, length, height and width).

6 Technical consultation concerning ITUs and options for loading on railway routes

Hupac's Fleet Management Department (FM), in conjunction with the services which coordinate intermodal transport for the various railway operators, can be contacted for any further information by the manufacturers of ITUs and customers.

6.1 Services / Contacts for information

FM - Rolling Stock (rolling stock / codes / vehicles):

Michael John	tel. +41 58 8558301,	Fax +41 58 8558805,	mjohn@hupac.com
Olimpio Rivera	tel. +41 58 8558335,	Fax +41 58 8558805,	orivera@hupac.com

Safety, Dangerous Goods and Waste:

Onorato Zanini	tel. +41 58 8558210,	Fax +41 58 8558801,	ozanini@hupac.com
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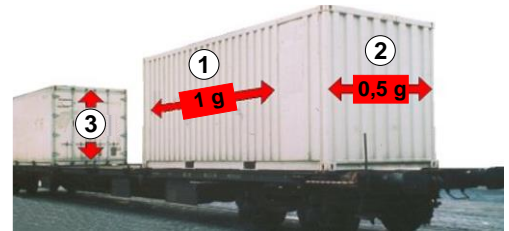


7 Combined transport (block trains without manoeuvre)

Goods loaded on semi-trailers, containers and swap bodies (ITU).

7.1 Stresses during transport

- ① In the longitudinal direction (in both directions up to 1 g)
- ② In the transversal direction up to 0.5 g (1 g = 9.81 m/s²)
- ③ The stresses in the vertical direction favour the displacement of goods during transportation.

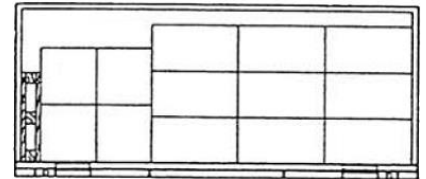


7.2 Conditions of the ITUs used for transport

- Cleaned floor
- Side walls, metal structures and canvas covers in good condition and intact.
- Locking devices of the doors and of the side walls in good working order.
- It is forbidden to use fastenings, in order to secure the load to the corner fittings or to the grip edges of the ITUs.

7.3 Loading system

- Load the goods onto the whole available surface in a compact manner (with no free spaces) and secure them individually.
- Distribute bulk goods evenly and compactly on the whole loading surface.
- Do not exceed the external dimensions of the ITU (any exception must be agreed with all the parts involved in transport (RUs, operators of combined transport, terminal managers, etc.).
- Distribute the load uniformly, in both the longitudinal and transversal directions, in such a way that during the transshipment phase the ITU is balanced and cannot move out of the grip of the crane clamps.
- Stacking is authorised only if the bottom layer occupies the entire loading surface.
- The goods and the loading system must not cause any stresses to the ITU, in order not to jeopardise the train operation.



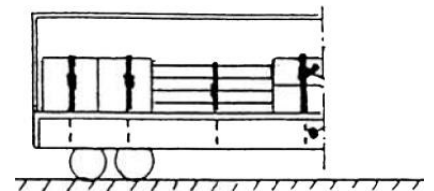
7.4 Securing the load

To create stable loads, the single elements or the stacks must be assembled, e.g. through fastenings or thermo-contraction plastic sheeting.

The stacking of sacks must be carried out in a cross or inwardly inclined form. The goods which can be easily raised up due to air movements must be protected against fall/lifting.

Goods which are not fastened to the side or front walls must be secured by means of:

- direct or indirect fastenings;
- stays;
- pneumatic or padded cushions;
- upright pallets or wooden panels;
- insertions which augment the coefficient of friction.



For insurance reasons it is recommendable to use the fixing devices on the loading units.

The stay supports must be inserted in such a way that the load pressure is distributed over a surface as large as possible.

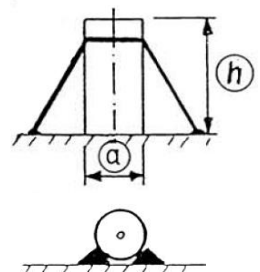
This must be done across the entire width of the load near the doors and at the front edges, where possible against the corner mounts.

7.5 Securing only by means of canvas covers, roof arches and metal structures, is insufficient

Goods must be secured against tipping by means of frames, stays or fastenings for approx. 3/4 of their height, where the supporting surface ① is at least:

- 6/10 in the longitudinal direction;
- 5/10 in the transversal sense of the height ②.

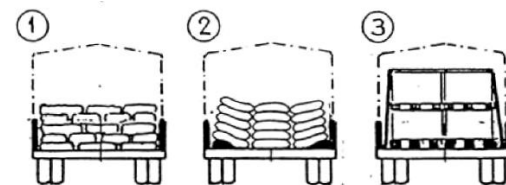
Cylindrically shaped goods must be wedged to prevent their rolling.



7.6 Loading examples

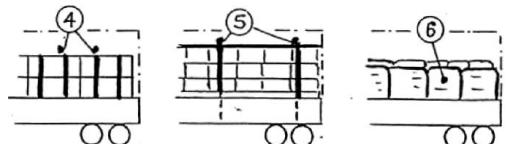
7.6.1 Sacks

- ① - Overlapped stacking;
- ② - inclined towards their centre;
- ③ - on pallets stacked one on top of the other and secured with fastenings.



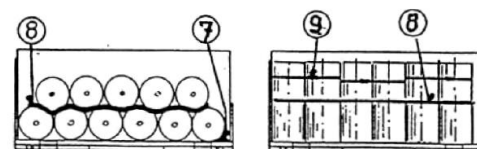
7.6.2 Boxes

- ④ - Tied together;
- ⑤ - secured with indirect fastenings;
- ⑥ - use of vertical panels to prevent their sideways movement.



7.6.3 Paper rolls positioned transversally

- ⑦ - Fix them with wedges (each wedge with at least 2 nails of 5 mm Ø);
- ⑧ - fasten them against lateral movement (e.g. with a series of mats).



7.6.4 Standing paper rolls and barrels

- ⑧ - Fasten them against displacement (e.g. with a series of mats);
- ⑨ - top layer to be fastened together in groups (to prevent slip).

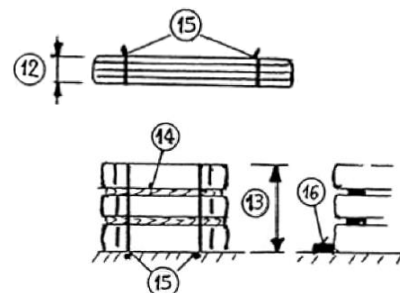
7.6.5 Coils positioned transversally

- ⑩ - Load the coils on frames or on stops with floor stays;
- ⑪ - fasten them to prevent lateral movement (e.g. with wooden blocks).



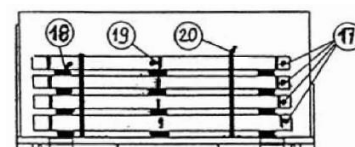
7.6.6 Panels, steel sheeting

- ⑫ - Fastened in packs, maximum height 75 cm;
- ⑬ - stacked one atop the other, maximum height 1.25 m;
- ⑭ - insert joists between the packs;
- ⑮ - tie packs and stacks at least one metre apart (with 2 transversal fastenings) Use belts with minimum tear strength of 1400 daN and use corner protections;
- ⑯ - secure against transversal movement (e.g. with joists or fastenings).



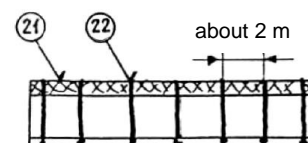
7.6.7 Pipes and steel profiles in bundles

- ⑰ - Load them in a maximum of four layers;
- ⑱ - interspace the layers with joists 2 m apart having a cross-section of at least 60 cm (e.g. 15x4 cm, 12x5 cm);
- ⑲ - tie together the bundles at least two at a time;
- ⑳ - secure the load with at least 2 indirect fastenings, self-locking belts with tear strength min. 4000 daN.



7.6.8 Scrap, waste paper (loose or bundled), powdery materials, sand and gravel

- ⑳ - Load up no higher than the upper edge of the ITU;
- cover all the surface
 - scrap paper, powdery materials, sand and gravel with canvas covers
 - light scrap (sheeting, vehicle parts, cuttings, etc.) with synthetic or light metal netting;
- ㉑ - fix with rope with tear strength ≥ 50 daN.



7.7 Canvas covers for covering the load

The canvas covers used to cover the load must be resistant and hardly flammable.

They must allow water to run off, avoiding the formation of puddles.

Canvas covers must be secured with sufficient non-metallic fastenings, so that they cannot flutter during the journey and jeopardise the railway activity.

8 Condition of the ITU

8.1 Regulations for the ITU

ITUs must be sealed as instructed by CIM regulations.

8.2 Supplementary instructions for the loading of ITUs

8.2.1 Concentrated loads: coils, marble/granite blocks and other heavy goods

8.2.1.1. Coils

The loading of coils is permitted exclusively onto ITUs that are certified for this transport.

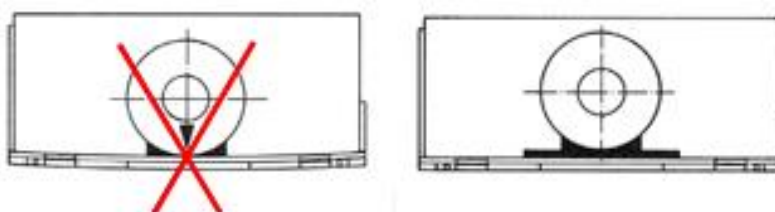
The position and the maximal weight of the coils in the ITU, which are defined by the manufacturer, must always be respected.

The loading of coils on non-authorised ITUs is strictly prohibited, since they can cause the floor to sink. The coils must be positioned in suitable tubs and secured against transversal movement, or positioned on saddles and secured against tilting and slip.

In order to guarantee a correct weight repartition, it is important to respect the centring inside the tubs.

A special declaration, obtainable on request, has to be filled in for the consignments of coils to and from Italy.

For other types of goods with concentrated weight, the maximum floor bearing load has to be respected on the basis of the surface area occupied by the load.



8.2.1.2. Marble/granite blocks

The loading of marble/granite blocks onto flat containers has to be carried out according to the following instructions:

- ① Blocks must be loaded by stretching them out in 1 or 2 layers, distributing them as much as possible over the whole loading surface, with or without any free spaces.
- ② They must be stabilised with 2 or 4 soft-wood interlayers.
- ③ They must be tied together to form a loading unit with at least 2 fastenings (breaking force min. 1400 daN).
- ④ The quantity of indirect fastenings must be adjusted according to the weight of the goods (breaking force min. 1400 daN).
- ⑤ The fastenings must have safety hooks against accidental detachment.
Hooks without anti-detachment safety must be locked at the anchorage point, e.g. with clamps, wire, etc.

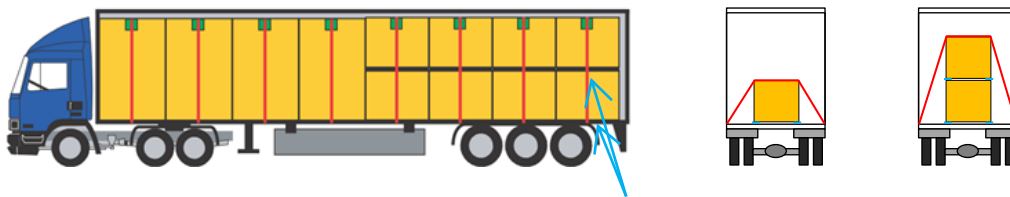
8.2.2 Fastening

In exceptional cases it is allowed to hook up some external belts to fasten the loading on the sides or on the frame only if these are intact, well stretched and situated in points which do not disturb the transshipment of the ITU.



8.2.3 Fastening of standing paper rolls

Paper rolls which are loaded in one, respectively two layers, have to be fastened as follows. Each roll, respectively each stack of rolls, has to be fastened with ratchet lashing belts against movement.



Non-slip-strips with a minimum coefficient of friction of 0.7 have to be put under each roll and, in case of stacked rolls, also among the rolls.

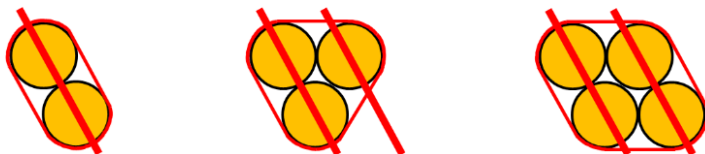


Option 1: each layer, respectively each double layer (stack of rolls), is fastened against moving with indirect binding.

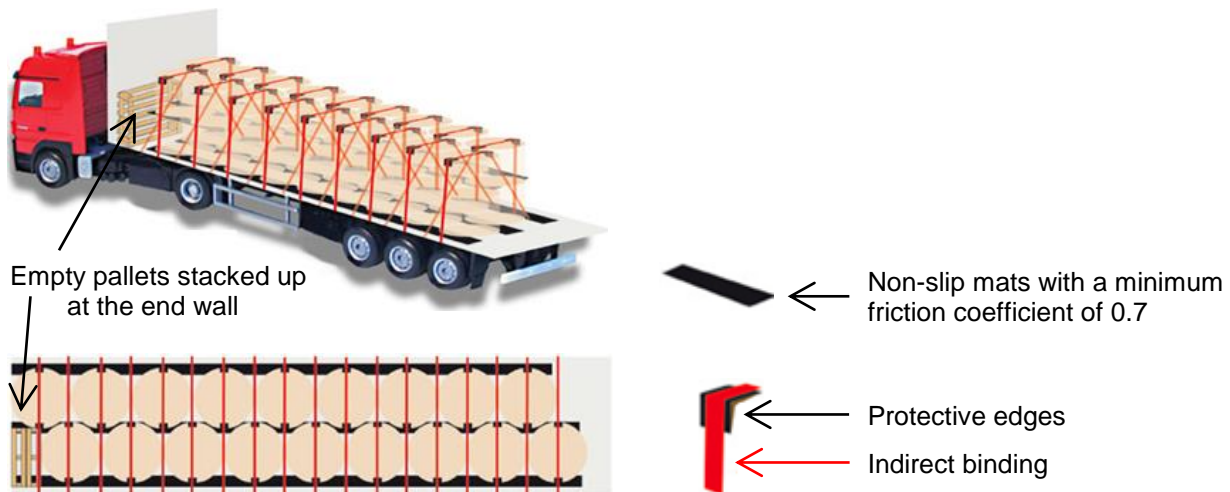


← Empty pallets stacked up at the end wall as spacers

According to our experience this kind of fastening of the upper layer is not sufficient to ensure transport safety. Groups of 2, 3 or 4 rolls of the upper layer must be tied together.



Option 2: Each roll, respectively each stack of rolls, is secured against moving through indirect fastening. This is an optimal fastening!!



8.2.4 Displacement of the load

The goods loaded on the loading units must be well fastened, in order to avoid any displacement during the trip, which might seriously endanger the railway activity.

ITUs with a swollen part of the tarpaulin because of the displacement of the load are not allowed.



8.2.4.1. Wire rod rolls

To avoid the displacement of the goods during transportation, the loading of the wire rod rolls must be carried out in a transversal way according to the following points:

- ① The compacting of wire rod rolls must be carefully carried out, in order to ensure good stability. Each roll is held together by at least 4 fastenings of annealed steel wire or steel straps (minimum breaking strength: 1400 daN) regularly distributed over the entire circumference of the roll. No fastening can be loose or broken.

The wire rod rolls are:

- ② centrally loaded with respect to the longitudinal axis of the wagon;
- ③ leaned against the joists over the entire width;
- ④ in contact with the head wall or spaced by means of 2 joists nailed to the first transversal joist;



- ⑤ leaned together with a carton;
- ⑥ secured with 2 fastenings (breaking effort min. 2500 daN);
- ⑦ tied together to form a loading unit with 1 binding (breaking effort min. 2500 daN).

8.2.5 Incorrectly distributed load

In case of an excessive weight difference in the transversal direction, the wagon is shunted out of the train and the goods inside the loading unit must be rearranged.



In both cases, the excess weight on the left side triggered an alarm, by means of a weight measuring system on the railway route, because of the difference in the transversal weight.

The main instructions regarding the loading of the goods are mentioned in article 7 of this document.

8.2.6 Hermetic sealing of the loading units / Presence of goods out of the UTI

As a general rule loading units should not have any leakage (liquid or solid).

It's up to the shipper to make the loading unit hermetic before delivering it to the loading terminal. Loading units with leakage (see pictures below), must be rejected at the terminal check-in.



No goods should be positioned out of the loading units; these should be removed before the delivery of the loading units at the loading terminal.



8.3 Regulations for all the ITUs fitted with tarpaulin

Slats, belts, bars and supports

The following ITUs are not allowed:

- with less than 3 horizontal slats (on longitudinal and rear sides) between the belts;
- with incorrectly fitted support bars;
- with missing or bent tarpaulin upper supports.



Holes and cuts in the tarpaulin

Tarpaulins must be in a safe condition for transportation; any cuts should be glued or welded.



Belts

All the eyelets must be taut. Where there is no eyelet, the belt should be secured by means of a metallic wire/plastic strap.

Tarpaulin eyelets / Truck cable

The distance among the tarpaulin eyelets must not exceed 20 cm; the one close to the stops / door latches 30 cm. The truck cable must be taut through all of the eyelets.

3 missing eyelets are allowed at most, but they shall not be consecutively placed.



Zigzag holders

Tarpaulin retention systems arranged in a zigzag manner are not permitted, unless a truck cable is drawn tautly through the eyelets.

Only one eyelet may be omitted or missing.



ITUs with "curtainsider" tarpaulins

All the fastening belts must be attached to the longitudinal frame member of the ITU and tensioned through the appropriate device. Only one fastening belt per side may be damaged, and this must not hang down. The sliding parts of the tarpaulin must be closed and well-secured. When securing the tarpaulin on a curtainsider, it is not necessary to draw an additional securing rope through the tarpaulin eyelets of the tension belts.

ITUs which carry a "Code XL" pictogram or "XL" on the codification plate are suitable for railway transport up to a maximum speed of 140 km/h.



C44	45
S45	2500
	XL
040 • S10004 • 000000000000132391	

P385	abc3
98	defg
XL	hi
040 • K00003 • 00000002400147328	




Important information for shipping companies, terminals and railway undertakings

In loading units with tarpaulin structures like "curtainsider", the sliding part of the tarpaulin must be closed / tensed on both sides according to the manufacturer's instructions. The same holds for roofs.

The shipping company is responsible for their correct closing.



Constructional parts that must be checked.
Example semi-trailer.

-  All the stretching tubes of the tarpaulin must be well inserted in the appropriate rooms.
-  The fixing means must be correctly fastened.
-  The belts must be fastened and tensed.



The control of the visible part of the loading units should be carefully carried out by the railway undertaking at the terminal check-in and before the train departure, in order to avoid the opening of the sliding parts of the tarpaulin during the trip (see picture).

In order to avoid the complete opening of the sliding parts of the tarpaulin during the trip because of the unfastening of the roll-up rod of the tarpaulin, we recommend the assembly of 4 longitudinal belts (one for each corner, see pictures below) in case of semi-trailers and swap bodies with a greater length of 40'. This is also requested for the new ITUs according to the UIC/IRS regulations.

Front part

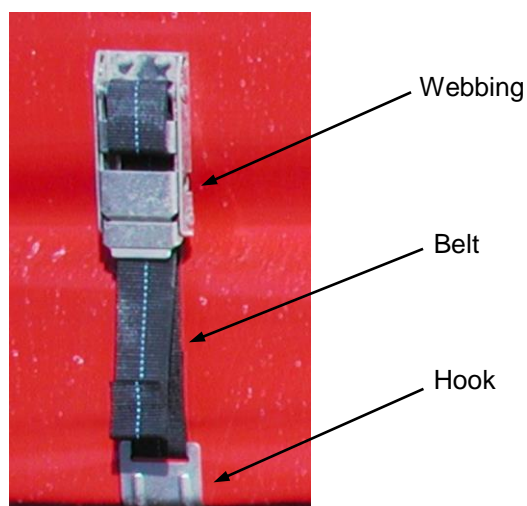
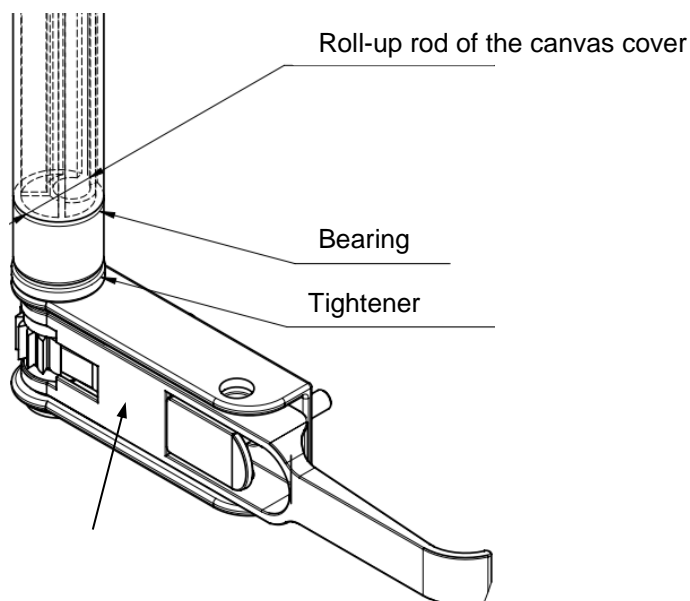


Rear part



The keeper is responsible for guaranteeing the correct maintenance of the loading unit and replacing the damaged or worn bolting parts of the sliding parts both of the tarpaulin and of the roof.

In order to guarantee a safe transport, the parts used for the fastening of the covers (see pictures below) must be in good condition.

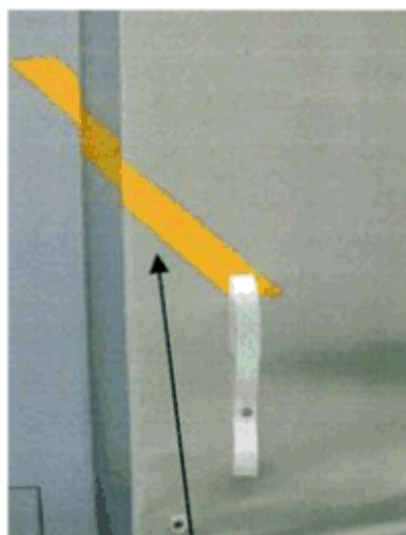


ITUS with vertically adjustable tarpaulins

The structures with vertically adjustable tarpaulins must be labelled with 2 codification plates. Only one of these can be associated to the corresponding corner height and be visible through a window in the tarpaulin or with a visual identification system.



In case of structures with vertically adjustable tarpaulins and only one authorized height for the railway transport, there must be a univocal identification system (for example by means of the corresponding colored stripes).



N.B.: In rail transport, the coloured strip on the tarpaulin must be aligned or below the one on the UTI door post (pillar).

The lack of one of the two strips might cause the refusal of loading the UTI, as it is not possible to verify the observance of the profile indicated on the codification plate.

Strengthened XLS semi-trailers

Thanks to the lateral support of the tarpaulin and to the superstructure of the XLS-labeled semi-trailers, the leaning against the lateral part of the tarpaulin is authorized within the dimensions provided for the railway transport.

The consignments of XLS semi-trailers with the load that leans on the canvas covers are allowed only if executed by the railway undertakings indicated in the loading example 009 2187-101-16. For the moment these are SNCF, CFL Cargo, Mercitalia Rail and SBB Cargo.



For the technical staff of terminals and railway undertakings: These strengthened semi-trailers are to be recognized through a yellow pictogram with the identification XLS.



8.4 Regulations for ITUs (tank containers)

Valves, caps and pipes

Valves must be closed and caps must be in place on the respective outlets. There must be no leakage of liquids or gas from the tank.



Covers / latches

All tank covers must be closed and well secured.



Insulation, tank support frame

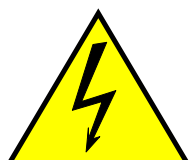
The insulation must be fixed because of safe transport reasons.

The bearer frame and tank must not be buckled or show any cracks that might endanger transport. In this respect, multi-chamber tanks **must** be loaded uniformly, by respecting the maximum load specifications for each single chamber.



Electrical power signs

ITUs with access ladders must bear a pictogram indicating "Danger: electrical current".



or



8.5 Provisions for Open Top containers

The goods shall remain below the upper part of the ITU, in order to avoid any contact with the canvas cover.

Holes and cuts in the canvas cover



Canvas covers shall be in good repair for a secure transport; any cuts both in the upper and in the side part of the canvas cover shall be either glued with adhesive tapes or welded.

To ensure transport safety, the parts used for the correct fastening of the canvas cover shall be in good repair.

Belt tensioner

They shall be undamaged and tightened in a stable way.

Belts

They shall not be missing or deteriorated.

They shall be tightened with the corresponding belt tensioner.

Canvas cover eyelets / cable

The maximum distance among the eyelets of the canvas cover shall not exceed 20 cm and the cable shall be tightened through all the eyelets.

Longitudinal bar

It shall be inserted into the canvas cover and shall not project beyond the outer part of the ITU.

8.6 Hazardous Goods Transport

The transport of hazardous goods is subject to the respective international regulations:

ADR – road

RID – rail

IMDG – sea

ADN – river

IATA – air

In addition to these, there are regulations of the individual countries which may be more or less restrictive than the international ones.








Hupac defined a list of hazardous goods that cannot be transported on its trains or that are not accepted in some of its terminals. For any further information, please visit our website www.hupac.com/mercipericolose

It is the customer's responsibility to deliver loading units that comply with the above-mentioned international transport rules, paying specific attention to:

- the condition of the loading unit (maintenance, overhauls, etc.)
- the condition of the load;
- training and necessary authorizations which are foreseen for the staff (for example ADR licence);

- labelling;
- completeness of the data and of the required documentation;
- prompt pick up of the loading units from the terminals;
- prompt intervention in case of safety issues (loss of product, decanting, other).

8.6.1 Labelling regulations for vehicles containing hazardous goods

 Danger sign	Danger signs must be applied on all the 4 sides of the vehicle. The colour must be the one provided for by RID regulations.	cm 25 x 25
	For semi-trailers which are separated from the tractor unit, the danger sign must be affixed on both sides of the trailer, unless the orange-coloured plates have been already affixed.	cm 25 x 25
 Orange plates	Orange-coloured plates must be displayed on 2 sides of the tank / container. In case of multi-chamber tanks, the label must be displayed on the two longitudinal axes.	cm 40 x 30 digits 10 cm
	Semi-trailers, which are separated from the tractor unit, have an orange-coloured plate without numbers on the front and the back part, unless the danger sign is affixed.	
 	Containers labelled according to the IMDG Code can be accepted. Labels have to be in very good condition (colour, size, etc.). The electronic documents (train list, etc.) must report the following remark: "CARRIAGE ACCORDING TO 1.1.4.2.1".	cm 25 X 25 cm 30 x 10
	ENVIRONMENTALLY HAZARDOUS SUBSTANCES This mark must be affixed on the 4 sides of the loading unit if the substance is subject to the ADR/RID regulations, paragraph 2.2.9.1.10. ITUs on the 4 sides, semi-trailers on the 2 longitudinal sides.	cm 25 x 25
	LIMITED QUANTITY (LQ) When provided for by the ADR/RID regulations, the mark for "limited quantity" consignment (≥ 8 t) must be affixed on the 4 sides of the loading unit. ITUs on the 4 sides, semi-trailers on the 2 longitudinal sides.	cm 25 x 25
	SUBSTANCES TRANSPORTED AT ELEVATED TEMPERATURES This symbol must be displayed when substances are transported in a liquid state, at an equal or higher temperature than 100°C or, in the solid state, at an equal or higher temperature than 240°C . ITUs on the 4 sides.	cm 25 x 25

The orange-coloured plates and danger labels must be attached in such a way that they do not tear/get damaged during the journey. They must be weatherproof.

8.6.2 Transport of Class 1 materials

The transport of Class 1 materials is subject to the above-mentioned regulations and to special authorisations issued by authorities (ministries, regional administrations, others).

The documentation that is delivered to the terminal must also include a copy of these documents (as requested), the absence or incompleteness of which may cause the consignment to be stopped.

It is essential to give at least 24 hours' notice of these consignments to the terminal.

8.6.3 Transport of Class 7 materials

Hupac transports no materials of this class on its trains.

8.6.4 Description N.O.S. (Not Otherwise Specified)

As far as the ADR/RID goods departing from Italy are concerned, the statement of the technical name of the product N.O.S. has to be inserted, according to RID, chapter 5.4, paragraph 3.1.2.8.1.1. In case of consignments with destination abroad, this must be issued not only in Italian, but also in one of the three languages according to RID (French, English or German).

8.6.5 Control of loading units and drivers

Spot checks are expected to be carried out on vehicle roads (tractor truck included) that carry dangerous goods, in order to verify the presence of protective devices for the driver and for the vehicle according to ADR. An additional control regards the drivers who have to show their ADR licence.

8.6.6 Stop of ITUs with dangerous goods

The stop of ITUs with dangerous goods in terminals is allowed only for the phases concerning transportation (departure, arrival or transshipment). Storage is not allowed.

8.7 Transport of waste

The transport of waste is allowed if the relevant regulations (CE) no. 1013-2006 and further requirements are complied with.

For every new consignment of (hazardous) waste that requires a notification, Hupac asks for a copy of the full notification (Annex I A). The transport authorization must be confirmed by Hupac.

The necessary transport documents that are issued by the relevant authorities, must be correctly filled in in every field by paying particular attention to the parts mentioned below:

- Annex I A (copy to be transmitted)

- Annex I B

Write the correct and complete data in the different fields by paying attention to the fields **8 a, b, c** of the concerned freight carriers and, should they be more than 3, attach the corresponding annex.

- Annex VII (original)

Write the correct and complete data in the different fields by paying attention to the fields **5 a, b, c** of the concerned freight carriers and, should they be more than 3, attach the corresponding annex.

Should it be required by the procedures, the above-mentioned documents must be shown at the counter when delivering the container at the terminal.

This procedure concerns the transport of hazardous and non-hazardous waste.

In all cases, the EWC code (European Waste Code) must be indicated in the transport document.

In the case of waste classified as ADR/RID, the labelling rules for containers are the same as the ones for the transport of hazardous goods.

The delivered vehicles must not show any kind of leakage and even any residuals on the external parts of the loading unit. Vehicles that don't fulfill these conditions won't be accepted until they have been repaired.

The label with an **R** (rifiuto pericoloso = hazardous waste) on yellow background is valid only for Italy. On the German territory the label shows an **A** (Abfall = waste) on white background. This should be covered or removed when the vehicle is empty.

8.8 Regulations for all the ITUs with doors, headwalls and sideboards

Closing systems

All latches must be closed and fastened.



Door and sideboard hinges

They must be free from defects.



8.9 Regulations for ITUs with openable roofs

Roof fastening systems

Roofs must be closed and secured to ensure that they do not open spontaneously during the journey.



8.10 Specific regulations for swap bodies / containers

Lower corner anchors

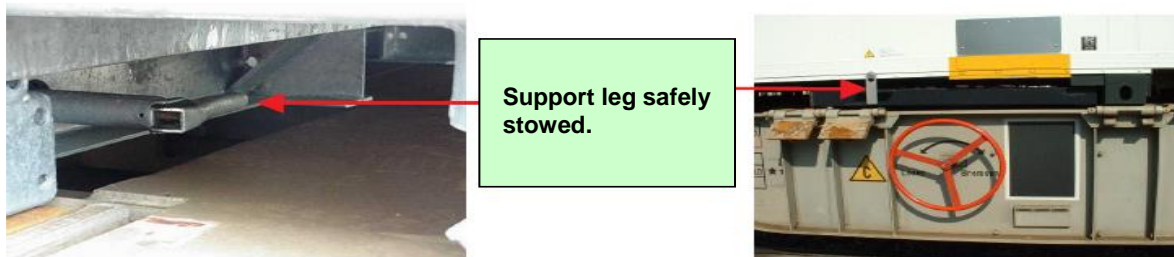
The 4 lower corner anchors needed to fix the ITU must be complete, non-deformed and with no cracks in the fixing welds.



8.11 Specific regulations for swap bodies

Safety equipment: support leg

If a safety device is damaged, the support legs are secured with a suitable fastening system to prevent them from coming out during the trip.



8.12 Specific regulations for containers

Upper corner pieces

The 4 corner pieces which serve to couple the ITU with the spreader of the crane must be complete and conform to the regulations in force, not be deformed and have no cracks in the fixing welds.

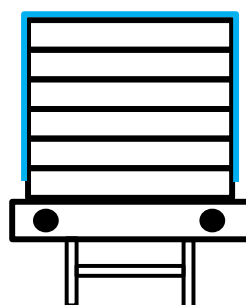


8.13 Regulations for empty stacked flats

- The empty stacked flat containers can be transported only on wagons suitable for combined transport and respecting the loading profile limit. This exclusively if they are of the same type, same length and if they are fastened together with four intermediate supports each as well as equipped with twistlock.
- In the automatic or semi-automatic closure systems, the condition of the blocking devices must be visually recognizable.
- In the manual closure systems, the lever of the twistlock in the closed position must be fixed, in order to exclude any unlocking due to involuntary movement or to incorrect closure.



- Should junction elements be used without the twistlock, the stacked flat containers must be secured together with at least 2 fastenings (tensile strength in straight traction, at least 1400 daN) and equipped with protections on the sharp edges. Fastening belts or bands are only to be used.



On exposed edges, belts must be protected by means of **edge covers**.



- In case of stacked flats, the front walls overturned of the upper containers must be fastened against the involuntary lifting through the bindings (tensile strength in a straight traction, at least 1400 daN).



8.14 Regulations for flats with frontal doors

The raised end doors in the flats with or without canvas cover must always been secured with twistlocks. Furthermore, the movable elements of the frontal and lateral walls must been fastened against accidental movements.

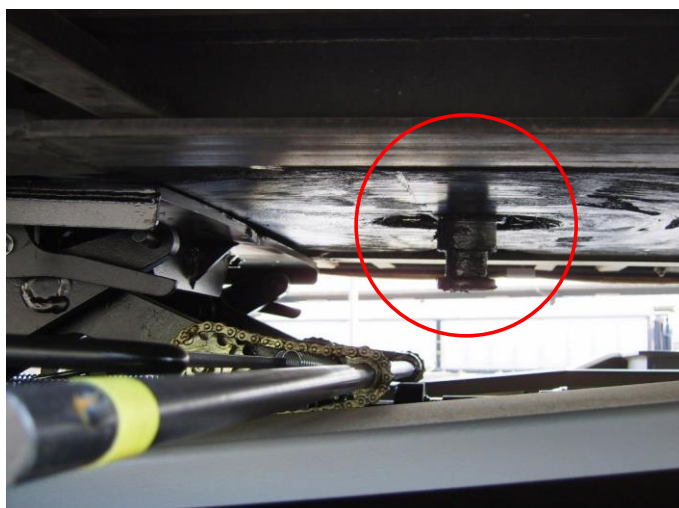
8.15 Specific regulations for semi-trailers

King pin of the fifth wheel

The king pin of the fifth wheel must be in good condition and correctly fixed to the semi-trailer plate.

The semi-trailer, once loaded on the pocket wagon, must have the king pin correctly inserted in the funnel of the jack.

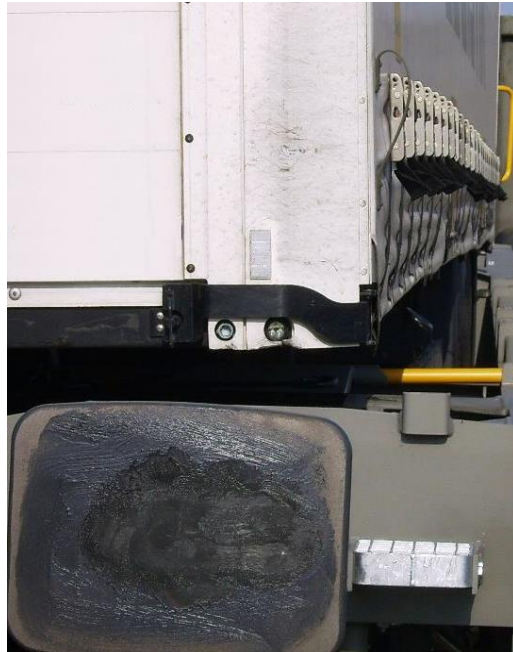
WRONG position of the king pin, serious danger for the railway activity!!



MANDATORY CHECK OF
THE CORRECT
CLOSURE / COUPLING

As the semi-trailer is not fastened with the king pin, it is free to move in both longitudinal and transversal direction, thus surpassing the profile with the risk to bump into the fixed parts of the railway infrastructure and the trains.

In this case the semi-trailer, the vehicles on the trains and the railway infrastructure might be damaged and cause a serious accident during the trip!!



Rear bumper bars

The semi-trailer reversible rear bumper bars must not be so deformed that they cannot be inverted and safely secured.



Support legs

Support legs must be completely raised / inverted before being loaded onto the railway wagon.

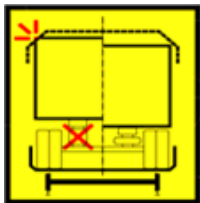


Failure to ensure the above could cause serious danger and damage to the semi-trailer and the railway infrastructure as well.



Air suspensions

Semi-trailers equipped with air suspensions are labelled with the following pictogram:



Before loading these semi-trailers onto the wagons, the brakes must be loosen and air shall be completely discharged from the suspensions. The transshipment and the shipment must always be carried out with emptied and completely lowered air suspensions.

8.16 Regulations for swap bodies and semi-trailers

Crane grips

Crane grips and protection for sideboards / tarpaulins must be constructed in accordance with the UIC/IRS regulations and be in good condition.

In addition, the protection must consist of a single piece.

The protection must be fixed so that the surface is smooth (with no projecting part) where the grips take hold.

There must be an about 10cm-high yellow marker above the crane grips.



SAFETY FIRST!

Have a good trip!!